

## REMARKS/ARGUMENTS

These remarks are made in response to the Office Action of January 11, 2007 (Office Action). As this action is timely filed within the three-month shortened statutory period, no fees are believed due. However, the Office is expressly authorized to charge any deficiencies or credit any overpayments to Deposit Account 50-0951.

Claims 1, 3-6, 8-10, 12-15, 17-19, 21-24, and 26-27 were rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent 5,860,064 to Henton (hereinafter Henton), in view of U.S. Patent 6,622,140 to Kantrowitz (hereinafter Kantrowitz). Claims 2, 7, 11, 16, 20 and 25 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Henton, in view of Kantrowitz, and in further view of U.S. Patent 7,103,548 to Squibbs, *et al.* (hereinafter Squibbs). Additionally, Claims 19-27 were rejected under 35 U.S.C. § 101

Applicants have amended independent Claims 1, 9, and 19 to further emphasize certain aspects of the invention. Applicants also have amended Claims 19-27 in order to address the issue pertaining to 35 U.S.C. § 101. The claim amendments, as discussed in the following section, are fully supported throughout the Specification. No new matter has been introduced by the claim amendments.

### *Aspects Of The Invention*

It may be useful to reiterate certain aspects of Applicants' invention prior to addressing the cited references. One embodiment of the invention, typified by amended Claim 1, is a method of preparing a document to be read by a text-to-speech reader.

The method can include identifying two or more voice types available to the text-to-speech reader. The method also can include identifying text elements within the document, and grouping together those text elements that are in some sense similar to one

another. The method further can include classifying the text elements according to voice types available to the text-to-speech reader.

More particularly, the step of grouping text elements can comprise two distinct procedures. (See, e.g., Specification, paragraph [0023], lines 3-10; see also paragraphs [0025]-[0027].) A first procedure is syntactic parsing. (See, e.g., Specification, paragraph [0024], lines 3-4.) A second is performing text mining. (See, e.g., Specification, paragraph [0027], lines 1-4.) Thus, according to the invention, the step of grouping can comprise syntactically parsing the document and subsequently performing text mining so as to group similar text elements.

### **The Claims Define Over The Cited References**

As already noted, independent Claims 1, 9, and 19 were each rejected as being unpatentable over Henton in view of Kantrowitz. Henton is directed to a method and apparatus for automatically applying "vocal emotion" parameters to text in a text-to-speech system. (See Col. 4, lines 30-61; see also Abstract.) Kantrowitz is directed to a computer-implemented method of analyzing "affect and emotion" in text documents. (See Col. 2, lines 18-47.)

It is stated in the Office Action that Henton discloses the steps of identifying two or more voice types available to a text-to-speech reader and identifying text elements within a text document. It is noted in the Office Action, however, that Henton fails to disclose grouping similar text elements or classifying the grouped text elements according to voice types available to a text-to-speech reader. Nonetheless, it is stated in the Office Action that these feature are taught by Kantrowitz.

It should be noted initially that Kantrowitz does not consider in what "voice" a particular piece of text should be rendered by a text-to-speech device. More fundamentally, Kantrowitz does not in fact classify text elements according to voice types. Kantrowitz is concerned only with classifying text based on "affect and emotion,"

but not how that affect and emotion translates into, or corresponds with, a particular voice type. Applicants respectfully submit that this precludes Kantrowitz from providing a classification that would be useable with Henton to associate different voice types of a text-to-speech reader with different groups of similar text elements.

Specifically, as explicitly described in the following portion of the reference, Kantrowitz's classifications are limited to assessing whether news is "good or bad," whether a topic is "positive or negative," whether a comment is complementary or critical and the like, but provides no association with voice type:

"The present invention analyzes affect and emotion in text, reporting a valence (positive, negative, or neutral) and intensity (magnitude) for the text's overall emotion and for the emotion associated with each named entity. The system can be used to classify news articles as good news or bad news, classify web pages on a topic as positive or negative, and classify customer communications into complaints and compliments. Other applications include the analysis of financial news for short-term prediction of the impact of the news on stock prices." (Col. 2, lines 28-37.)

This is related to an even more fundamental distinction between Kantrowitz and Applicants' invention, namely, the grouping of text elements. As noted in the Office Action, Kantrowitz aggregates variants of a particular term into a "canonicalized" group. The procedure is explicitly described as follows:

"Referring to FIG. 4A, step 400 identifies the named entities contained in a document 410. Loop 412 iterates for each affect term in the document 410. Within loop 412, step 414 assigns a score to the affect term and step 416 classifies the affect term as either positive, negative, or neutral. An affect

score for the document 410 is computed in step 418. Step 418 maybe omitted. Referring now to FIG. 4B, the affect terms are assigned to the named entities in step 420. The variants of the named entities are canonicalized into groups such that the variants may be treated as one entity instead of a multitude of entities. For example, "Compaq Computer Corporation", "Compaq Computer Corp.", "Compaq Computer", and "Compaq" are treated as the name for a single entity, not four different entities. Loop 424 iterates for each variant group. Within loop 424, step 426 sums the scores of the positive affect terms within the variant group and step 428 sums the scores of the negative affect terms within the variant score. An affect score for the variant group is computed in step 430.

The methods of the present invention may be applied to text documents, for example, to news articles, financial news articles, web pages, customer communications, and information retrieval tasks (e.g., document retrieval, filtering, routing, and classification).

News articles may be classified as good or bad. Furthermore, the named entities within the news articles may be classified as good or bad.

Financial news articles, likewise, may be classified as good or bad. The affect score may be used to predict price changes in securities associated with the named entities in a financial news article.

Web pages or other web documents may be classified as positive or negative. Furthermore, an information retrieval engine may search for web pages or documents that are positive or negative on a topic, in addition to

the usual keywords. Search results may be prioritized according to the intensity of the affect score. The affect scores for the page and the named entities may be stored in an index for efficient computation of affect values at search time. Web pages may be classified as positive or negative according to the affect of the anchor text (sentence or paragraph) containing the link to the page (in all or some of the web pages that link to the page)." (Col. 5, lines 7-52.) (Emphasis supplied.)

Neither Kantrowitz's classifying of text as good or bad, positive or negative, nor Kantrowitz's forming of canonical groups of variants of a term teach the grouping of similar text elements as is done by Applicants' invention. In particular, Kantrowitz does not teach or suggest syntactically parsing a document, as recited in amended Claims 1, 9, and 19. Kantrowitz also fails to teach or suggest performing text mining, as also recited in amended Claims 1, 9, and 19. Kantrowitz thus does not provide a mechanism for grouping text elements according to voice types as taught by Applicants' invention.

Accordingly, even when combined, Henton and Kantrowitz fail to teach or suggest every feature recited in amended Claims 1, 9, and 19. Applicants respectfully submit, therefore, that Claims 1, 9, and 19 define over the prior art. Applicants further respectfully submit that whereas the remaining claims each depend from Claim 1, 9, or 19 while reciting additional features, these dependent claims likewise define over the prior art.

### CONCLUSION

The Applicants believe that this application is now in full condition for allowance. Allowance of the application, accordingly, is respectfully requested. The Applicants request that the Examiner call the undersigned if clarification is needed on any matter within this Response, or if the Examiner believes a telephone interview would expedite the prosecution of the subject application to completion.

Respectfully submitted,

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